PART NO. Z1-005-810, IB026024
Mar. 2015

Setup Guide

Large-Capacity DC Electronic Load
Smart Rack System

PLZ-4W SR Series

PLZ5004W SR
PLZ7004W SR
PLZ9004W SR

PLZ-4WH SR Series

PLZ5004WH SR
PLZ7004WH SR
PLZ9004WH SR

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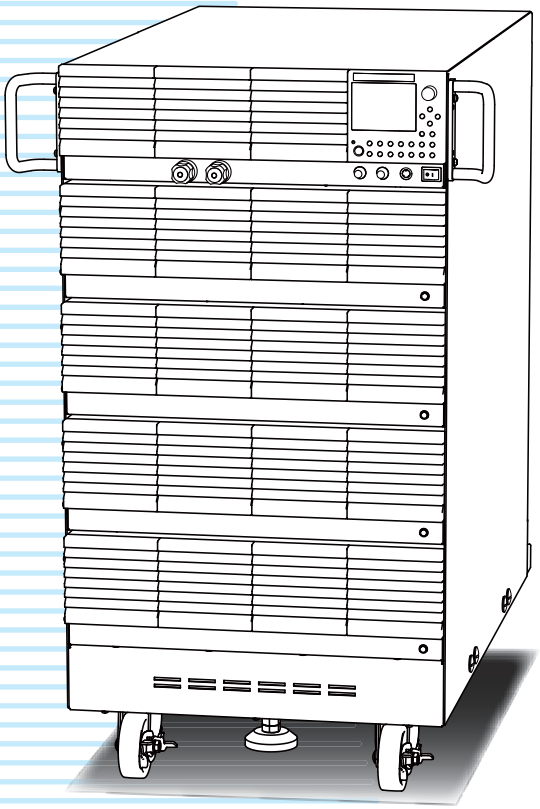

About the Manuals

These manuals are intended for users of the PLZ-4W SR Series and PLZ-4WH SR Series Large-Capacity DC Electronic Loads and their instructors. Explanations are given under the presumption that the reader has knowledge of power supplies.

Every effort has been made to ensure the accuracy of this manual. However, if you have any questions or find any errors or omissions, please contact your Kikusui agent or distributor.

If you find any misplaced or missing pages in the manuals, they will be replaced. If the manual gets lost or soiled, a new copy can be provided for a fee. In either case, please contact your Kikusui agent or distributor. At that time, inform your agent or distributor of the “Part No.” written on the front cover of this manual.

After you have finished reading this manual, store it so that you can use it for reference at any time.

Manual construction

PDF and HTML files are included in the accompanying CD-ROM.
Adobe Reader 6.0 or later is required to view the PDF files.
Microsoft Internet Explorer 6.0 or later is required to view the HTML files.

■ PLZ-4W SR series construction

- Master Unit PLZ-4W Series User’s Manual PDF
  This manual provides an overview of the PLZ1004W and notes on usage. It also explains how to configure it, operate it, perform maintenance on it, and so on.
  After reading the Setup Guide and the PLZ-4W SR is ready for use, read this manual to use the available features effectively.
- Specifications PDF
  This document describes the specifications of the PLZ-4W SR series.
- Communication Interface Manual HTML (partially in PDF)
  This manual explains how to control the product remotely using SCPI commands.
  The interface manual is written for readers with sufficient basic knowledge of how to control measuring instruments using a PC.
  The command list is provided in PDF format.
- PLZ-4W Series Quick Reference Paper PDF
  The quick reference briefly explains the PLZ-4W panel and the basic operation of it.
- Setup Guide Paper PDF (this guide)
  This guide is intended for users who are using the PLZ-4W SR series for the first time. It includes covers topics related to setting up the product such as preparing the product, connecting the EUT, and connecting various connectors.
- Booster PLZ2004WB Operation Manual PDF
  This manual explains how to clean the PLZ2004WB. Read this manual, and clean the PLZ2004WB periodically.

■ PLZ-4WH SR series construction

- Master Unit PLZ-4WH Series User’s Manual PDF
  This manual provides an overview of the PLZ1004WH and notes on usage. It also explains how to configure it, operate it, perform maintenance on it, and so on.
  After reading the Setup Guide and the PLZ-4WH SR is ready for use, read this manual to use the available features effectively.
- Specifications PDF
  This document describes the specifications of the PLZ-4WH SR series.
- Communication Interface Manual HTML (partially in PDF)
  This manual explains how to control the product remotely using SCPI commands.
  The interface manual is written for readers with sufficient basic knowledge of how to control measuring instruments using a PC.
  The command list is provided in PDF format.
- PLZ-4WH Series Quick Reference Paper PDF
  The quick reference briefly explains the PLZ-4WH panel and the basic operation of it.
- Setup Guide Paper PDF (this guide)
  This guide is intended for users who are using the PLZ-4WH SR series for the first time. It includes covers topics related to setting up the product such as preparing the product, connecting the EUT, and connecting various connectors.
- Booster PLZ2004WHB Operation Manual PDF
  This manual explains how to clean the PLZ2004WHB. Read this manual, and clean the PLZ2004WHB periodically.

Firmware versions that this manual covers

This manual covers the following product versions.
Version 1.3X or 1.4X for the PLZ-4W SR
Version 1.0X for the PLZ-4WH SR
For information on how to check the current firmware version, see below.

- PLZ-4W SR series: Section 2.7, “Checking the ROM Version,” in the PLZ-4W Series User’s Manual
- PLZ-4WH SR series: “Checking the ROM Version” in the PLZ-4WH Series User’s Manual

When contacting us about the product, please provide us with the following information.

- Model (marked in the top section of the front panel)
- Firmware version
- Serial number (marked in the bottom section of the rear panel)

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TEL: +81-45-593-7570 Fax: +81-45-593-7571

WEBSITE http://www.kikusui.co.jp/en

The newest version of the PLZ-4W SR and PLZ-4WH SR manuals can be downloaded from Download service of Kikusui website.

Product Overview

- PLZ-4W SR series
  The PLZ-4W SR series is a large current capacity model with a PLZ1004W DC Electronic Load and PLZ2004WB Electronic Load Boosters mounted on a dedicated rack.
- PLZ-4WH SR series
  The PLZ-4WH SR series is a large current capacity model with a PLZ1004WH DC Electronic Load and PLZ2004WHB Electronic Load Boosters mounted on a dedicated rack.

Both the PLZ-4W SR series and PLZ-4WH SR series can be controlled externally using external analog signals and controlled remotely using the RS232C, GPIB, or USB communication feature.

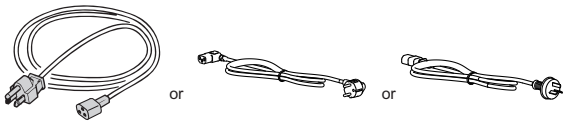
Checking the Package Contents

When you receive the product, check that all accessories are included and that the accessories have not been damaged during transportation.

If something is damaged or missing, contact your Kikusui agent or distributor.

We recommend that you save all packing materials, in case the product needs to be transported at a later date.

PLZ-4W SR series

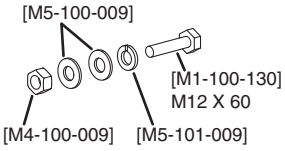


Plug: NEMA5-15
Rated voltage: 125 Vac
[85-10-0740]

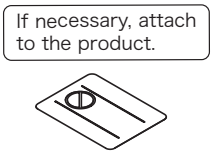
Plug: CEE7/7
Rated voltage: 250 Vac
[85-AA-0005]

Plug: GB1002
Rated voltage: 250 Vac
[85-10-0790]

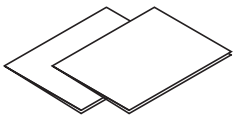
☐ Power cord (1 pc.)



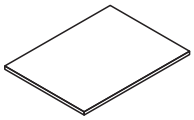
☐ Load input terminal screw set (8 sets)



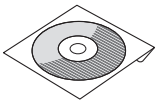
☐ Heavy object warning label (1 pc.)
[A8-900-158]



☐ Quick reference
Japanese (1 sheet): [Z1-004-800]
English (1 sheet): [Z1-004-802]

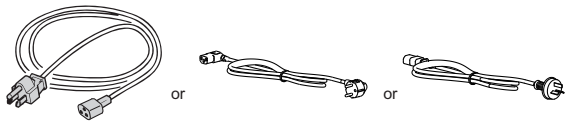


☐ Setup Guide
(this manual, 1 copy)
[Z1-005-810]



☐ CD-ROM (1 disc)
[SA-6035]

PLZ-4WH SR series

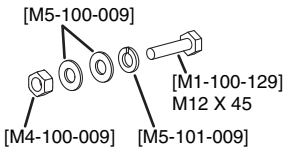


Plug: NEMA5-15
Rated voltage: 125 Vac
[85-10-0740]

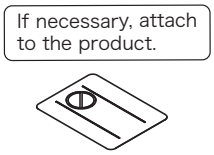
Plug: CEE7/7
Rated voltage: 250 Vac
[85-AA-0005]

Plug: GB1002
Rated voltage: 250 Vac
[85-10-0790]

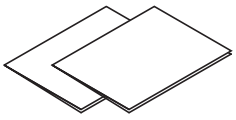
☐ Power cord (1 pc.)



☐ Load input terminal screw set (4 sets)



☐ Heavy object warning label (1 pc.)
[A8-900-158]



☐ Quick reference
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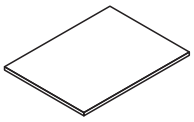
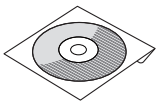
English (1 sheet): [Z1-004-982]



☐ Setup Guide
(this manual, 1 copy)
[Z1-005-810]



☐ CD-ROM (1 disc)
[SA-6035]

Safety Markings

For the safe use and safe maintenance of this product, the following symbols are used throughout this manual and on the product. Note the meaning of each of the symbols to ensure the safe use of the product. (Some symbols are not used depending on the product.)

or

Indicates that a high voltage (over 1000 V) is used here. Touching an area marked with this symbol without taking proper precautions may cause a fatal or serious electric shock. If you must touch an area marked with this symbol, ensure that the area is safe before you do so.

DANGER

Indicates an imminently hazardous situation which, if ignored, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if ignored, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if ignored, may result in damage to the product and other property.

Indicates a prohibited act.

Indicates a warning, caution, or danger. When this symbol is marked on the product, see the relevant section in this manual.

Protective conductor terminal.

Chassis (frame) terminal.

On (power supply).

Off (power supply).

In position of a bi-stable push control.

Out position of a bi-stable push control.

Safety Precautions

The following safety precautions must be observed to avoid fire hazards, electric shock, accidents, and device failures. Keep them in mind and make sure to observe them.

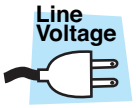
Using the product in a manner that is not specified in this manual may impair the protection functions provided by the product.

Users

- This product must be used only by qualified personnel who understand the contents of this operation manual.
- If unqualified personnel are to use the product, be sure the product is handled under the supervision of qualified personnel (those who have electrical knowledge). This is to prevent the possibility of personal injury.

Purpose of use

- Never use the product for purposes other than the product's intended use.
- This product is not designed or manufactured for general home or consumer use.



Input power supply

- Always use the product within the rated input line voltage range.
- Use the power cord provided to apply power. For details, see the respective page in this manual.
- This product conforms to IEC Overvoltage Category II (energy-consuming equipment that is supplied from a fixed installation).

Cover

- Some parts inside the product are hazardous. Do not remove the external cover.

Grounding

- This product conforms to IEC Safety Class I (equipment that has a protective conductor terminal). To prevent electric shock, be sure to connect the protective conductor terminal of the product to electrical ground (safety ground).

Operation

- If you notice a malfunction or abnormality in the product, stop using it immediately, and remove the power cord plug from the outlet. Make sure the product is not used until it is completely repaired.
- Make sure that load cables and other cables that run current have sufficient current capacity.
- Do not disassemble or modify the product. If you need to modify the product, contact your Kikusui agent or distributor.

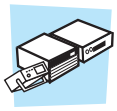
Maintenance and inspection

- To prevent electric shock, be sure to unplug the power cord before carrying out maintenance or inspection. Do not remove the external cover.
- Check periodically that there are no tears or breaks in the power cord.
- If the panel needs cleaning, gently wipe it using a soft cloth with water-diluted neutral detergent. Do not use volatile chemicals such as benzene or thinner.
- To maintain the performance and safe operation of the product, we recommend periodic maintenance, inspection, cleaning, and calibration.

Service

- Kikusui service engineers will perform internal service on the product. If the product needs adjustment or repairs, contact your Kikusui agent or distributor.

⚠ Precautions Concerning Installation Location

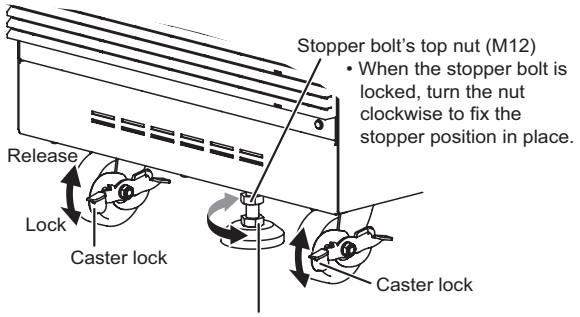


Be sure to observe the following precautions when installing the product.

- Do not use the product in a flammable environment.
  Risk of explosion or fire. Do not use the product near alcohol, thinner, or other combustible materials, or in an environment containing such vapors.
- Avoid locations where the product is exposed to high temperatures or direct sunlight.
  Do not install the product near a heater or in areas subject to drastic temperature changes.
  Operating temperature range:
  0 °C to +40 °C (32 °F to 104 °F)
  Storage temperature range:
  -25 °C to +70 °C (-13 °F to 158 °F) (PLZ-4W SR)
  -20 °C to +70 °C (-4 °F to 158 °F) (PLZ-4WH SR)
- Avoid humid environments.
  Do not install the product in high-humidity locations, such as near a boiler, humidifier, or water supply.
  Operating humidity range:
  20 %rh to 85 %rh (no condensation)
  Storage humidity range:
  90 %rh or less (no condensation)
  Condensation may form even within the operating humidity range. If this happens, do not use the product until the condensation dries up completely.
- Be sure to use the product indoors.
  This product is designed for safe indoor use.
- Do not install the product in a corrosive environment.
  Do not install the product in a corrosive environment or in environments that contain a high concentration of sulfuric acid mist. This may cause corrosion of various conductors or reduce the quality of the connector contacts inside the product, and this could lead to malfunction, failure, and possibly fire.
- Do not install the product in a dusty location.
  Dust accumulation can lead to electric shock or fire.
- Do not use the product in a poorly ventilated location.
  The product uses forced air cooling. It sucks air through the inlet holes on all its panels except for the rear panel, and then expels air through its rear panel. Secure adequate space around the product's inlet and outlet holes to prevent the possibility of fire caused by accumulation of heat.
  Allow at least 20 cm of space between the air inlet/outlet and the wall (or obstacles). Hot air (approximately 20 °C, 68 °F, hotter than the ambient temperature) is expelled from the outlet holes. Do not place objects that are affected by heat near the air outlet.
- Do not place objects on top of the product.
  Placing heavy objects on top of the product may cause it to malfunction.
- Do not install the product on an inclined surface or in a location subject to vibrations.
  The product may fall or tip over and cause damage and injury.
- Do not use the product in a location subject to strong magnetic or electric fields or in a location where the input power supply signal contains large amounts of distortion or noise.
  Doing so may cause the product to malfunction.
- Do not use this product near highly sensitive measuring instruments or receivers.
  Noise generated by this product may affect other devices.
- Secure adequate space around the power cord plug.
  Do not insert the power cord plug into an outlet that is difficult to access or place objects around the power cord plug that will make plugging and unplugging difficult.
- Use the product in an industrial environment.
  Using this product in a residential area may interfere with radio and TV broadcast reception. In such case, users may need to take special measures to reduce the electromagnetic radiation.

Fixing the product in place

This product has casters on its bottom side, so it is easy to move the product. To ensure that the product is not moved accidentally while it is being operated, lock the casters, and fix the product in place by lowering the stoppers to the floor.


Stopper bolt's top nut (M12)
• When the stopper bolt is locked, turn the nut clockwise to fix the stopper position in place.
Release
Lock
Caster lock
Caster lock
Stopper bolt's bottom nut (M12)
• Turn the nut clockwise to lower the stopper (lock).
• Turn the nut counterclockwise to raise the stopper (unlock).

⚠ Precautions for Moving the Product

Note the following points when moving the product to the installation location or when transporting the product.

- Turn off the POWER switch.
  Moving the product with the POWER switch turned on may cause electric shock or damage to the product.
- Remove all wiring from the product.
  Moving the product with the cables connected may cause wires to break or injuries due to the product falling over.
- If the stopper has been used to fix the product in place, release it. Moving the product without releasing the stopper may cause injuries due to the product falling over.
- Have an appropriate number of people (never just one) move the product. The weight of the product is indicated on the rear panel and in the "Specifications" manual.
- If you are using a forklift to move the product, be sure to slide the forks under the bottom of the product, check that the product is stable, and then raise the product. If you are using a crane to move the product, be sure to slide the band under the bottom of the product, check that the product is stable, and then raise the product.
- Do not use the handles to lift the product. The handles are for moving the product on its casters. The handles are not strong enough to support the weight of the product.
- When you are moving the product from one location to another, if you must leave it unattended, be sure to use the caster locks or the stopper bolt to ensure that the product stays in place.
- Do not tip the product on its side or turn it upside down.
- When transporting the product, be sure to use the original packing materials. Otherwise, damage may result from vibrations or from the product falling during transportation.
- Be sure to include this manual.

Notations Used in This Guide

- In this guide, large-capacity DC electronic loads PLZ5004W SR, PLZ7004W SR, and PLZ9004W SR are referred to as the PLZ-4W SR or the PLZ-4W SR series.
- In this guide, large-capacity DC electronic loads PLZ5004WH SR, PLZ7004WH SR, and PLZ9004WH SR are referred to as the PLZ-4WH SR or the PLZ-4WH SR series.
- The following markings are used in the explanations in this manual.

⚠WARNING

Indicates a potentially hazardous situation which, if ignored, could result in death or serious injury.

⚠CAUTION

Indicates a potentially hazardous situation which, if ignored, may result in damage to the product or other property.

NOTE

Indicates information that you should know.

参照

Indicates a reference to detailed information.

Contents of the Included CD-ROM

Load the included CD-ROM into the CD-ROM drive. In a few moments, a start window will appear. If the start window does not appear, open the CD-ROM folder in Windows Explorer, and then double-click index.html to display the start window.

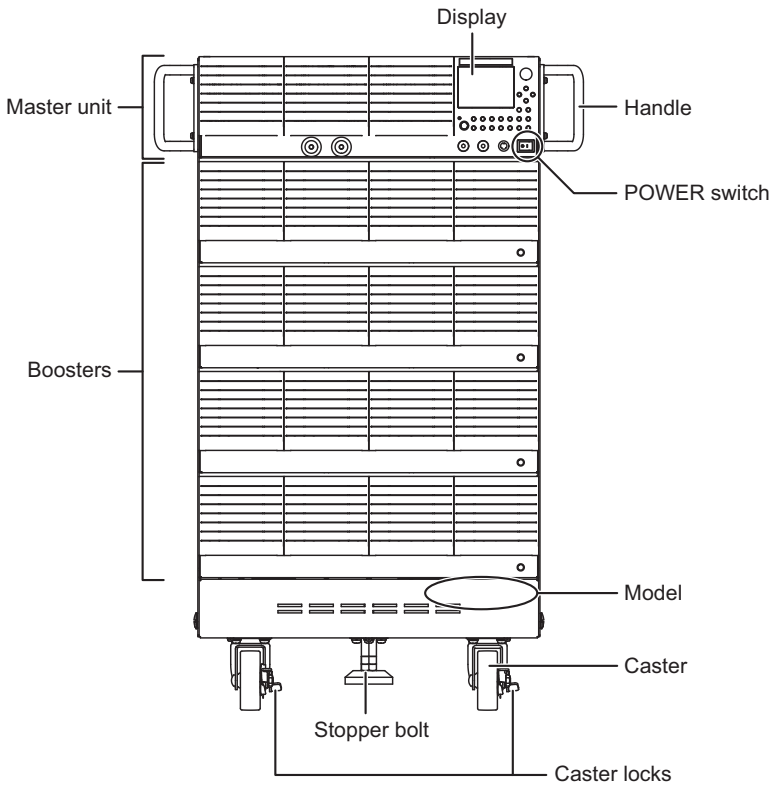
The CD-ROM contains the following items.

- Application software
  PLZ applications and samples (a VISA library is required to use the application software)
- Driver
  KI-VISA
- PLZ-4W SR Series Operation Manual
  PLZ-4W Series User's Manual (PDF)
  PLZ-4W Series Quick Reference (PDF)
  PLZ2004WB Operation Manual (PDF)
  PLZ-4W SR Series Setup Guide (PDF)
  Communication Interface Manual (HTML, partially in PDF)
- PLZ-4WH SR Series Operation Manual
  PLZ-4WH Series User's Manual (PDF)
  PLZ-4WH Series Quick Reference (PDF)
  PLZ2004WHB Operation Manual (PDF)
  PLZ-4WH SR Series Setup Guide (PDF)
  Communication Interface Manual (HTML, partially in PDF)

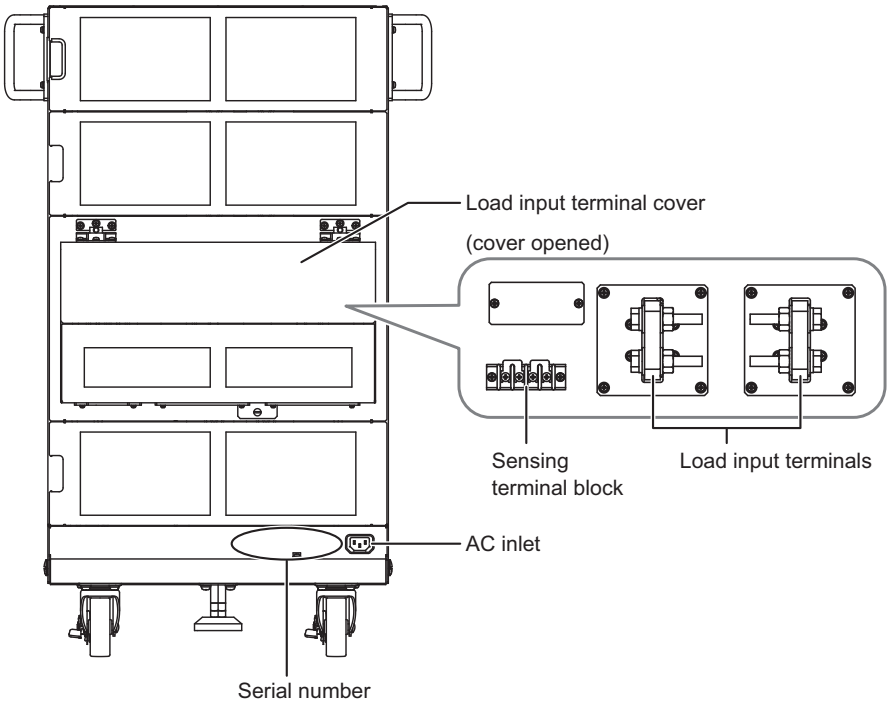
Component Names

PLZ-4W SR series (an example: PLZ9004W SR)

Front panel

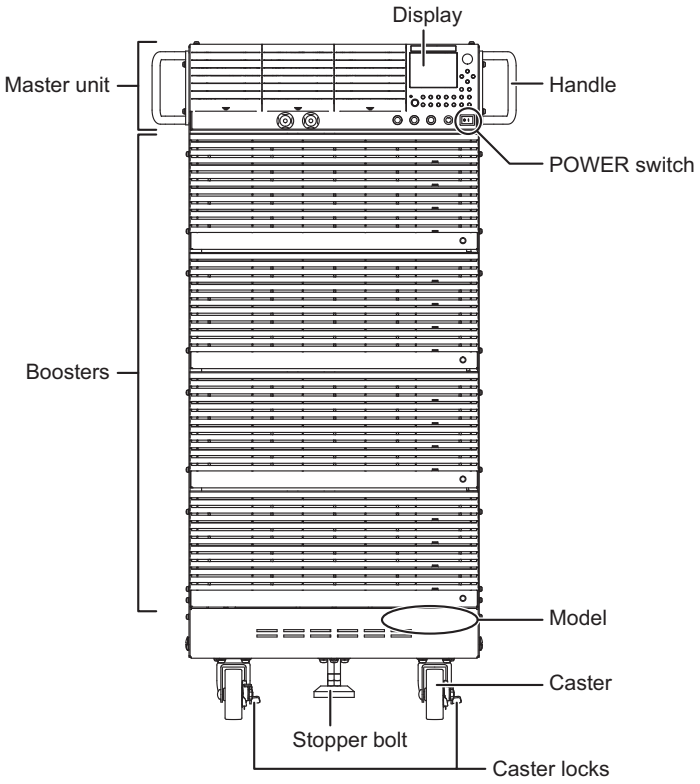


Rear panel

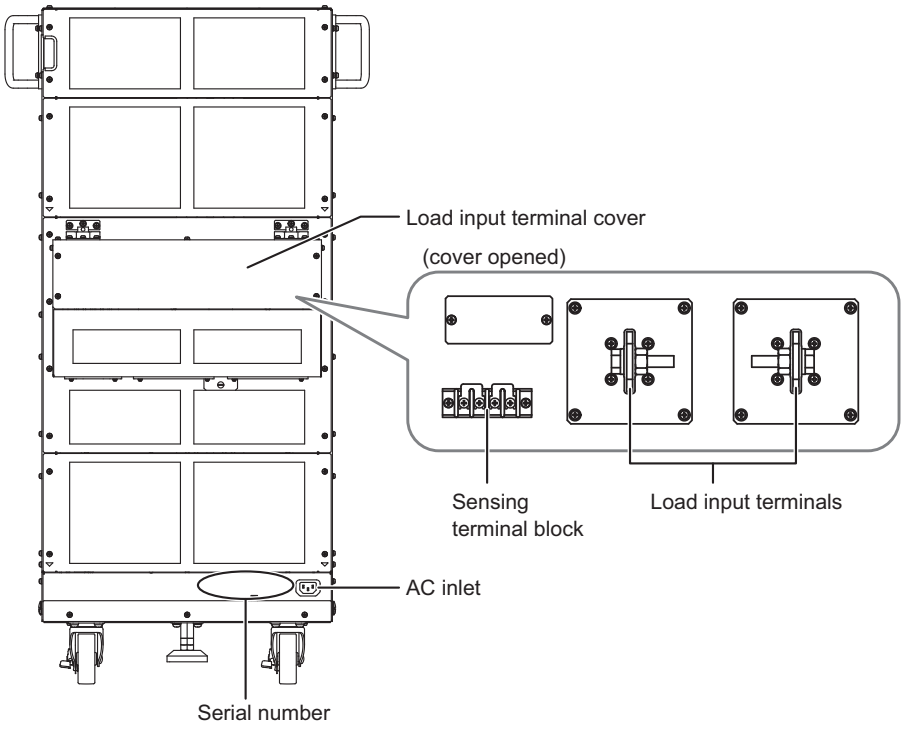


PLZ-4WH SR series (an example: PLZ9004WH SR)

Front panel



Rear panel



1 Preparation

This chapter describes how to connect the power cord and how to turn the power on and off.

Connecting the Power Cord

⚠WARNING **Risk of electric shock.**

- **This product conforms to IEC Safety Class I (equipment that has a protective conductor terminal). Be sure to earth ground the product to prevent electric shock.**
- **The product is grounded through the power cord ground wire. Connect the protective conductor terminal to earth ground.**

This product conforms to IEC Overvoltage Category II (energy-consuming equipment that is supplied from a fixed installation).

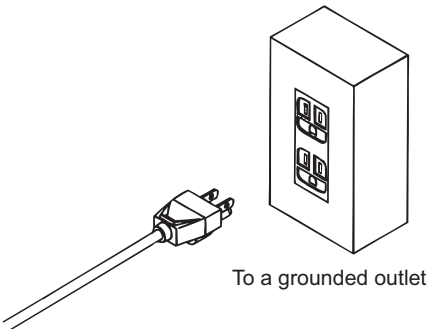
1 **Turn the POWER switch off (○).**

2 **Check that the AC power line meets the nominal input rating of the product.**

The product can receive a nominal line voltage in the range of 100 Vac to 240 Vac at 50 Hz or 60 Hz (frequency range: 47 Hz to 63 Hz).

3 **Connect the power cord to the AC INPUT inlet on the rear panel.**

4 **Connect the power cord plug to a properly grounded outlet.**

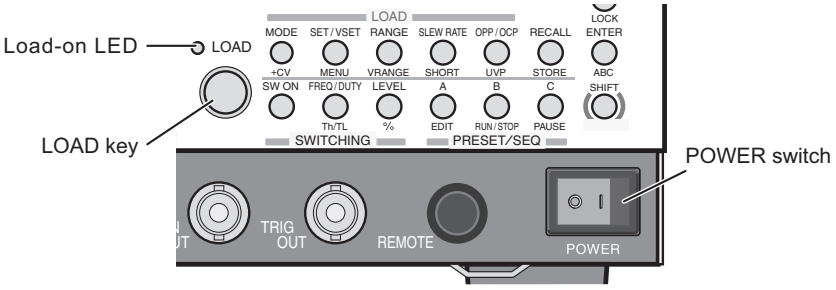


To a grounded outlet

NOTE

- Use the supplied power cord to connect to the AC line. If the supplied power cord cannot be used because the rated voltage or the plug shape is incompatible, have a qualified engineer replace it with an appropriate power cord that is 3 m or less in length. If obtaining a power cord is difficult, contact your Kikusui agent or distributor.
- The power cord with a plug can be used to disconnect the product from the AC power line in an emergency. Connect the plug to an easily accessible power outlet so that the plug can be removed from the outlet at any time. Be sure to provide adequate clearance around the power outlet.
- Do not use the supplied power cord with other instruments.

Turning the Power On



PLZ-4W SR series example

1 **Turn the POWER switch off (○).**

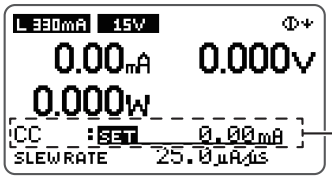
2 **Check that the power cord is connected correctly.**

3 **Check that nothing is connected to the load input terminals (DC INPUT) on the front and rear panels.**

4 **Turn the POWER switch on (|).**

5 **Check that the display is ready to accept basic setting input.**

Measurements (areas where the unit is mA, V, and W) indicate zero. The word “SET” appears highlighted below the measurements. You can enter the basic setting in the selected operation mode.



On this screen, constant current (CC) mode is selected. Thus, you can enter the current, which is the basic setting.

6 **Press LOAD.**

Check that the LED above the key lights.

7 **Press LOAD again.**

Check that the LED above the key turns off.

If you notice strange sounds, unusual odors, fire, or smoke around or from inside the product, flip the POWER switch off (○), or remove the power cord plug from the outlet.

NOTE

- The phrase “load on” refers to a condition in which a current is running through the product. “Turning the load on” refers to the operation of running a current through the product. The phrase “load off” refers to a condition in which a current is not running through the product. “Turning the load off” refers to the operation of stopping a current from running through the product.
- This product saves the panel settings (except the load on/off condition) that are in use immediately before the POWER switch is turned off. If you turn the power on, the product starts in the same state as it was in the last time that it was turned off.

Initial settings

As shown in the following table, the initial settings of this product are different from the factory default settings of individual PLZ series power supplies (PLZ1004W and PLZ1004WH). If you initialize this product to its factory default settings, the factory default settings of individual PLZ series power supplies will be applied, so be sure to change the items in the following table.

Item			Value
Parallel operation	Configuration > Master/Slave	Operation	MASTER
		Booster	PLZ5004W SR and PLZ5004WH SR: 2 PLZ7004W SR and PLZ7004WH SR: 3 PLZ9004W SR and PLZ9004WH SR: 4

When the product does not start properly

If the product does not start when the power is turned on, follow the appropriate remedy shown below. If following the remedy does not solve your problem, contact your Kikusui agent or distributor.

Condition	Remedy
Nothing is shown on the display.	Check the power cord connection, and turn the POWER switch off and then back on. See the references below, and adjust the display contrast. • PLZ-4W SR series: See section 4.3, “Operation Panel,” in the PLZ-4W Series User’s Manual. • PLZ-4WH SR series See “Panel Operation Basics” in the PLZ-4WH Series User’s Manual.
An abnormal current or power is displayed.	Turn off the POWER switch and then back on.
An alarm is occurring.	A protection function has been activated. See the references below, and eliminate the root cause of the alarm. • PLZ-4W SR series: See section 5.3, “Types of Protection Functions,” in the PLZ-4W Series User’s Manual. • PLZ-4WH SR series: See “Protection Functions” in the PLZ-4WH Series User’s Manual.

Turning the Power Off

Turn the POWER switch off (○).

⚠CAUTION After you turn the POWER switch off, wait at least 5 seconds after the fan stops before you turn the POWER switch back on. Repeatedly turning the POWER switch on and off at short intervals can cause damage to the inrush current limiter. Furthermore, this will shorten the service life of the POWER switch, fuse, and other components.

NOTE This product saves the panel settings (except the load on/off condition) that are in use immediately before the POWER switch is turned off. If you turn the power on, the product starts in the same state as it was in the last time that it was turned off. If the power is turned off immediately after the settings have been changed, the last settings may not be stored.

2 Connecting the EUT

This chapter describes how to connect the EUT to the product.

Connecting the Load Cables

Using load cables, connect the EUT to the product through the load input terminals on the rear panel. The load input terminals on the front panel are for using a standalone PLZ1004W or PLZ1004WH in a simple manner. Do not use these terminals as this product uses parallel operation.

Selecting the load cable

⚠WARNING

- **Risk of fire. Use load cables whose capacity is adequate for the product's rated input current.**
- **Risk of electric shock. Use load cables with a voltage rating that meets or exceeds the product's isolation voltage. The isolation voltage of the PLZ-4W SR series is ±500 Vdc, and that of the PLZ-4WH SR series is ±750 Vdc.**

⚠CAUTION

- Use load cables with a core diameter that is appropriate for the amount of current being used and with sturdy, flame-resistant insulation.

If the load cable resistance is large, a large voltage drop may occur when current flows through the cables. This may result in the load input terminal voltage being lower than the minimum operating voltage of this product. Refer to the table below, run multiple cables in parallel to provide adequate wiring for the current.

Nominal cross-sectional area [mm^2]	AWG (reference cross-sectional area; mm^2)		Allowable current*1 [A] (Ta = 30 °C)	Kikusui-recommended current [A]
14	6	(13.3)	88	50
22	4	(21.15)	115	80
30	2	(33.62)	139	-
38	1	(42.41)	162	100
50	1/0	(53.49)	190	-
60	2/0	(67.43)	217	-
80	3/0	(85.01)	257	200
100	4/0	(107.2)	298	-
125	-	-	344	-
150	-	-	395	300
200	-	-	469	400
250	-	-	556	-
325	-	-	650	600

*1. Excerpt from Japanese laws related to electrical equipment.

NOTE

A cable's temperature is determined by the resistive loss based on the current, the ambient temperature, and the cable's external thermal resistance. The above table shows the current capacity of heat-resistant vinyl cables that have a maximum allowable temperature of 60 °C when one of the cables is separated and stretched out horizontally in air in an ambient temperature of 30 °C. The current must be reduced under certain conditions, such as when vinyl cables that have a low heat resistance are used, when the ambient temperature is 30 °C or greater, or when cables are bundled together and little heat is radiated.

Connecting the load cables

Using load cables, connect the EUT to the product through the load input terminals on the rear panel.

⚠WARNING **Risk of electric shock.**

- **Do not touch load input terminals when the output is turned on.**
- **The load input terminals on the front panel are connected internally to the load input terminals on the rear panel. The voltage applied to the terminal on one side is transmitted directly to the terminal on the other side.**

⚠CAUTION Risk of damage.

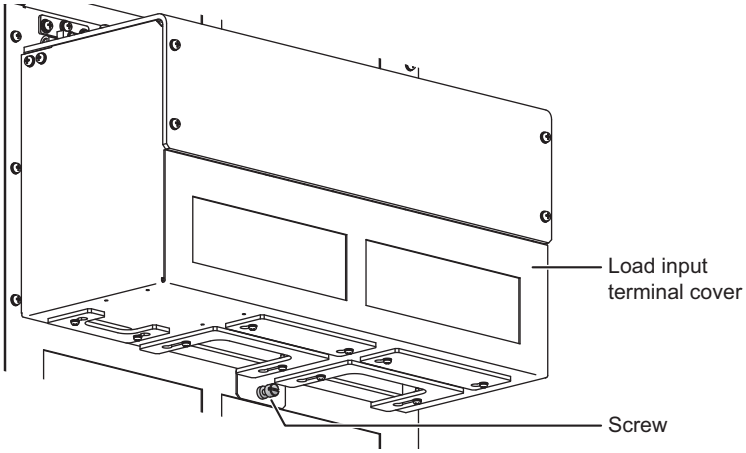
- Do not connect the EUT to the load input terminals while the product's load is turned on.
- Do not use the load input terminals on the front panel.

Risk of overheating.

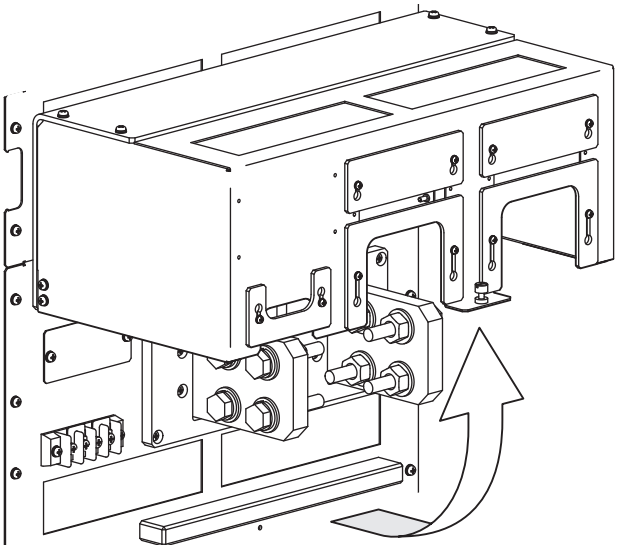
- Attach crimping terminals to the cables, and use the supplied screws to connect the cables.

1 **Turn the POWER switch off (○).**

2 **Loosen the screws holding the load input terminal cover on the rear panel of this product.**



3 **Open the load input terminal cover.**



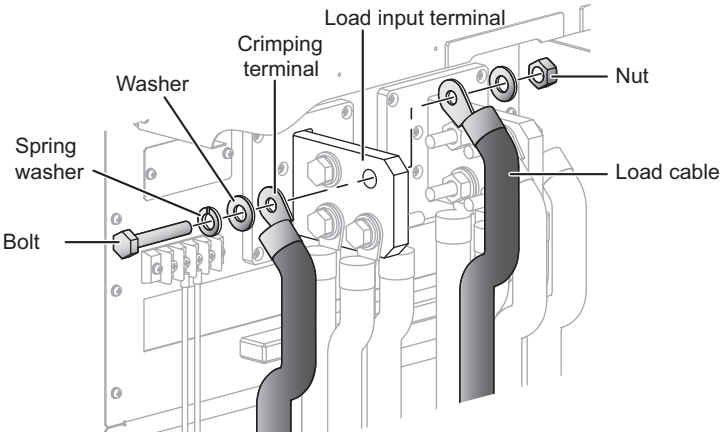
PLZ5004W SR example

4 Attach crimping terminals to the load cables.

Attach crimping terminals that are appropriate for the bolts (M12) that are to be used.

5 Connect the load cables to the load input terminals.

Use the supplied nuts, washers, and spring washers to secure the cables or wires in place.



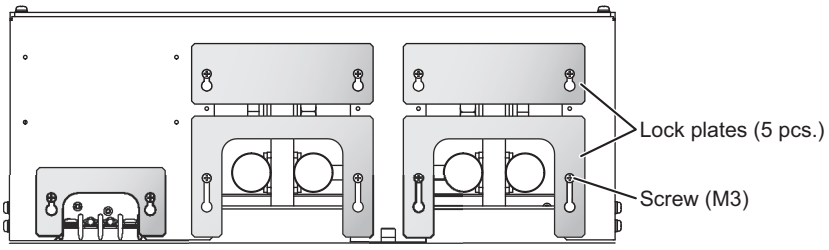
PLZ5004W SR example

See p. 16

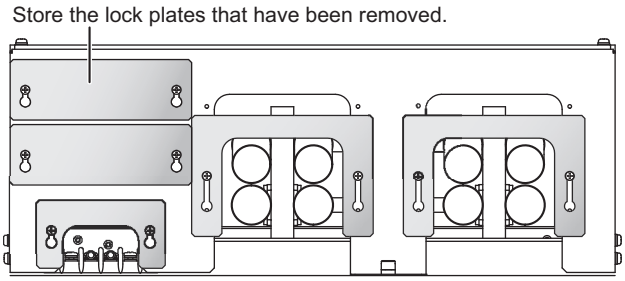
To connect sensing cables, see “ Using Remote Sensing.”

6 Adjust the positions of the lock plates for the load input terminal covers.

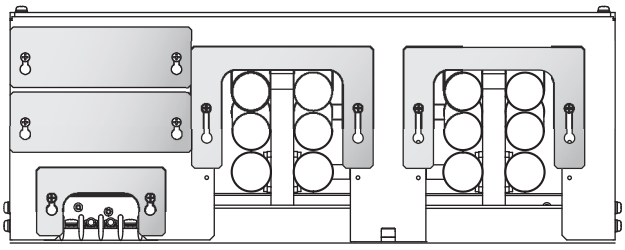
Refer to the figure below, and make adjustments according to the number of load and sensing cables.



Example 1: When 4 load cables are used



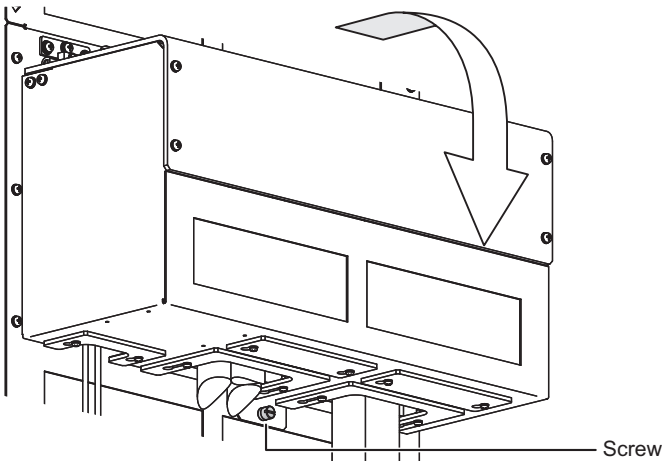
Example 2: When 8 load cables are used



Example 3: When 12 load cables are used

7 **Close the load input terminal covers, and fasten them with screws.**

Fasten the covers correctly to prevent them from moving.



Using Remote Sensing

Remote sensing is used to compensate for the voltage drop that occurs due to the resistance in load cables. Remote sensing improves the transient characteristics of constant resistance (CR), constant voltage (CV), and constant power (CP) operation modes, which stabilizes operation.

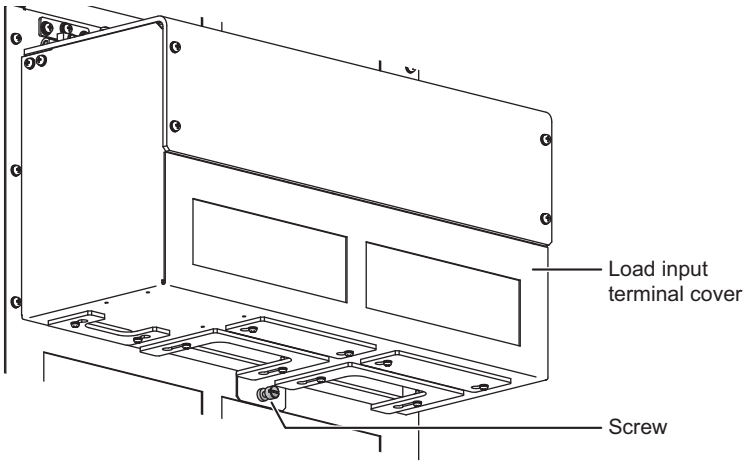
To use remote sensing, connect the sensing terminals of the product to the EUT with sensing cables.

⚠ CAUTION

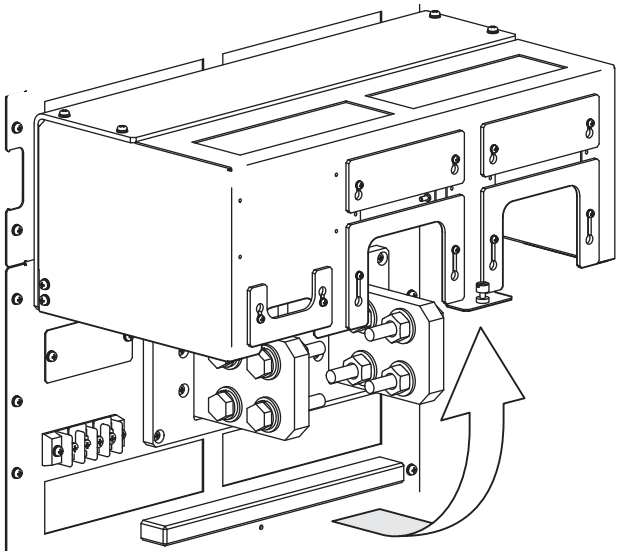
- Risk of damage to the internal circuitry. Never wire the sensing terminals while the master unit is turned on.
- If the remote sensing cables come loose while remote sensing is in use, the product and EUT may break. Be sure to connect the cables securely.
- If you are not using remote sensing, be sure to attach the two short bars to the sensing terminals.

1 **Turn the POWER switch off (○).**

2 **Loosen the screws holding the load input terminal cover on the rear panel of this product.**



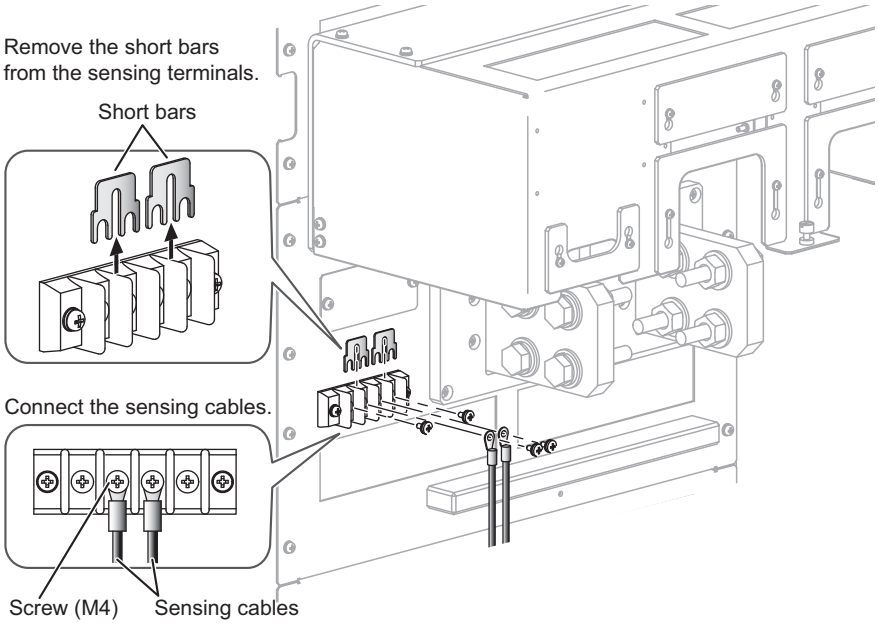
3 **Open the load input terminal cover.**



PLZ5004W SR example

4 Connect the sensing cables.

Remove the two short bars from the sensing terminals, and then connect the cables using the product screws.

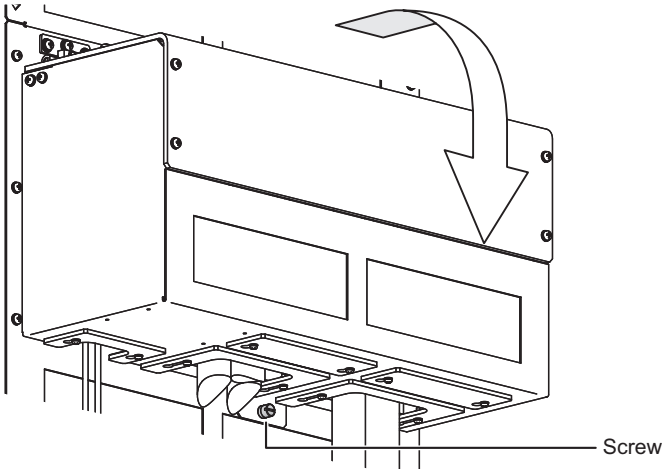


Use cables whose cross sectional area is at least 0.5 mm^2 and twist them together.

PLZ5004W SR example

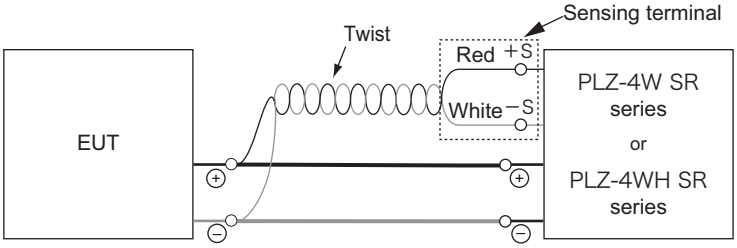
5 Close the load input terminal covers, and fasten them with screws.

Fasten the covers correctly to prevent them from moving.



6 Connect the sensing cables to the EUT.

Connect the cables as shown in the figure.
Connect the cables as close to the EUT as possible.



3 Connecting External Devices

This chapter describes how to connect an external controller when you want to control the product externally.

Connecting an External Controller

You can control the PLZ-4W SR series externally through the J1 connector on the rear panel of the master unit. You can control the PLZ-4WH SR series externally through the EXT CONT connector on the rear panel of the master unit. For details on external control and how to perform it, see below.

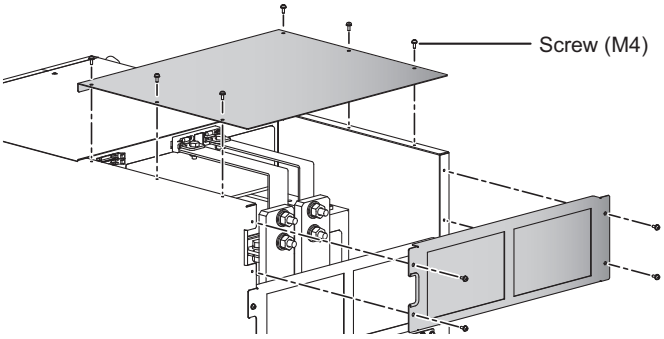
- PLZ-4W SR series: See the PLZ-4W Series User's Manual.
- PLZ-4WH SR series: See the PLZ-4WH Series User's Manual.

⚠WARNING **Risk of electric shock. Before you remove the top or rear panel or wire the J1 or EXT CONT connector, be sure to cut off the power supply from the EUT and turn off the product.**

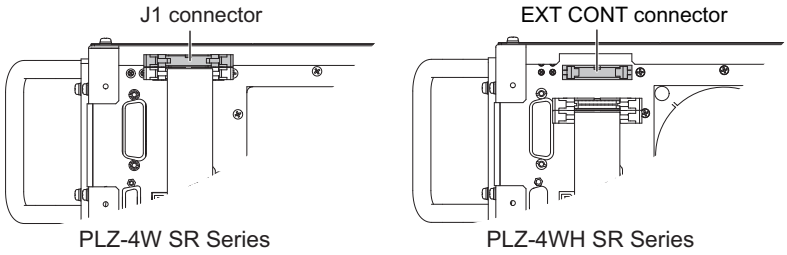
1 **Cut off the power supply from the EUT, and turn off (○) the product's POWER switch.**

2 **Remove the top panel and the topmost rear panel.**

You can now see the rear panel of the master unit.



3 **Remove the protection component attached to the connector, and connect the cable.**



4 **Attach the top and rear panel that you removed in step 2 .**

Run the cable that you connected to the connector through the opening at the left edge of the rear panel.

Connecting a Remote Controller

In addition to using the front panel, the product can be controlled remotely through the available interfaces. To perform remote control, an interface connector on the rear panel of the master unit is used. For details on remote control and how to perform it, see below.

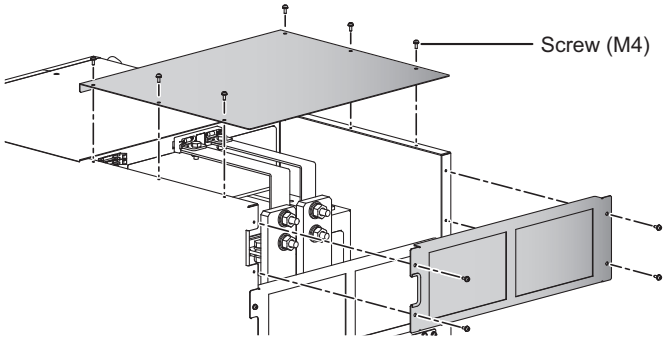
- PLZ-4W SR series: See the PLZ-4W Series User's Manual.
- PLZ-4WH SR series: See the PLZ-4WH Series User's Manual.

⚠WARNING **Risk of electric shock. Before you remove the top or rear panel or connect to an interface connector, be sure to cut off the power supply from the EUT and turn off the product.**

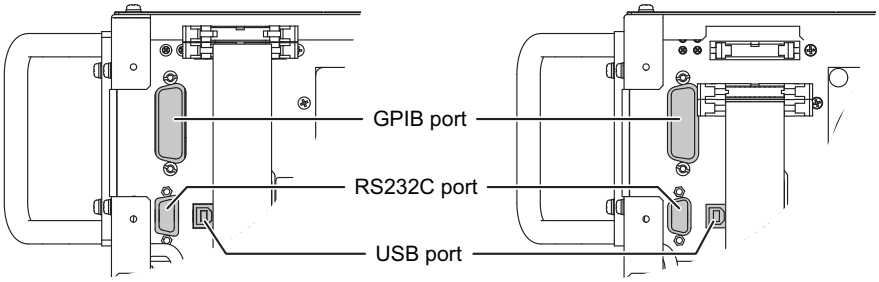
1 Cut off the power supply from the EUT, and turn off (○) the product's POWER switch.

2 Remove the top panel and the topmost rear panel.

You can now see the rear panel of the master unit.

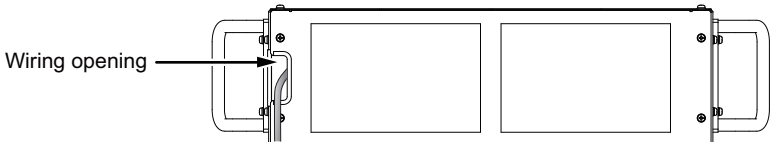


3 Connect a cable to the interface connector that you want to use.



4 Attach the top and rear panel that you removed in step 2 .

Run the cable that you connected to the interface connector through the opening at the left edge of the rear panel.



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Name of hazardous materials and symbol of element in the equipment and quantity

部件名称 Name of part	有毒有害物质或元素 Hazardous material and symbol of element					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(VI)	多溴联苯 PBB	多溴二苯醚 PBDE
PLZ1004W, PLZ1004WH (Electronic Load)	×	○	○	○	○	○
PLZ2004WB, PLZ2004WHB (Electronic Load)	×	○	○	○	○	○
PC01-PLZ-4W / PC02-PLZ-4W (I/F Cable)	×	○	○	○	○	○
内部接线 Internal wirings	×	○	○	○	○	○
外壳 Enclosure	×	○	○	○	○	○

○：该部件所有均质材料的有毒有害物质的含量不超过 SJ/T11363-2006 标准所规定的极限值要求。

×：该部件至少有一种均质材料的有毒有害物质的含量超过 SJ/T11363-2006 标准所规定的极限值要求。

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